

PCG-GRS150/GRS170

SERVICE MANUAL

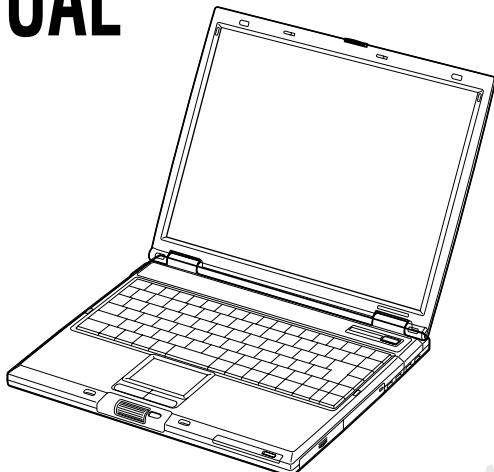
Ver 1-2002J

Revision History

For American Area

US Model

Canadian Model



Lineup : PCG-GRS170
PCG-GRS150

Illust : PCG-GRS170



- Design and specifications are subject to change without notice.

NOTEBOOK COMPUTER

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Caution Markings for Lithium/Ion Battery - The following or similar texts shall be provided on battery pack of equipment or in both the operating and the service instructions.

CAUTION: Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.

CAUTION: The battery pack used in this device may present a fire or chemical burn hazard if mistreated. Do not disassemble, heat above 100°C (212°F) or incinerate.

Dispose of used battery promptly.

Keep away from children.

CAUTION: Changing the back up battery.

- Overcharging, short circuiting, reverse charging, multilatation or incineration of the cells must be avoided to prevent one or more of the following occurrences; release of toxic materials, release of hydrogen and/or oxygen gas, rise in surface temperature.
- If a cell has leaked or vented, it should be replaced immediately while avoiding to touch it without any protection.

Service and Inspection Precautions

1. Obey precautionary markings and instructions

Labels and stamps on the cabinet, chassis, and components identify areas requiring special precautions. Be sure to observe these precautions, as well as all precautions listed in the operating manual and other associated documents.

2. Use designated parts only

The set's components possess important safety characteristics, such as noncombustibility and the ability to tolerate large voltages. Be sure that replacement parts possess the same safety characteristics as the originals. Also remember that the Δ mark, which appears in circuit diagrams and parts lists, denotes components that have particularly important safety functions; be extra sure to use only the designated components.

3. Always follow the original design when mounting parts and routing wires

The original layout includes various safety features, such as inclusion of insulating materials (tubes and tape) and the mounting of parts above the printer board. In addition, internal wiring has been routed and clamped so as to keep it away from hot or high-voltage parts. When mounting parts or routing wires, therefore, be sure to duplicate the original layout.

4. Inspect after completing service

After servicing, inspect to make sure that all screws, components, and wiring have been returned to their original condition. Also check the area around the repair location to ensure that repair work has caused no damage, and confirm safety.

5. When replacing chip components...

Never reuse components. Also remember that the negative side of tantalum capacitors is easily damaged by heat.

6. When handling flexible print boards...

- The temperature of the soldering-iron tip should be about 270C.
- Do not apply the tip more than three times to the same pattern.
- Handle patterns with care; never apply force.

Caution: Remember that hard disk drives are easily damaged by vibration. Always handle with care.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

**LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE Δ SUR LES
DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT
CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE
REEMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY
DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU
DANS LES SUPPÉMENTS PUBLIÉS PAR SONY.**

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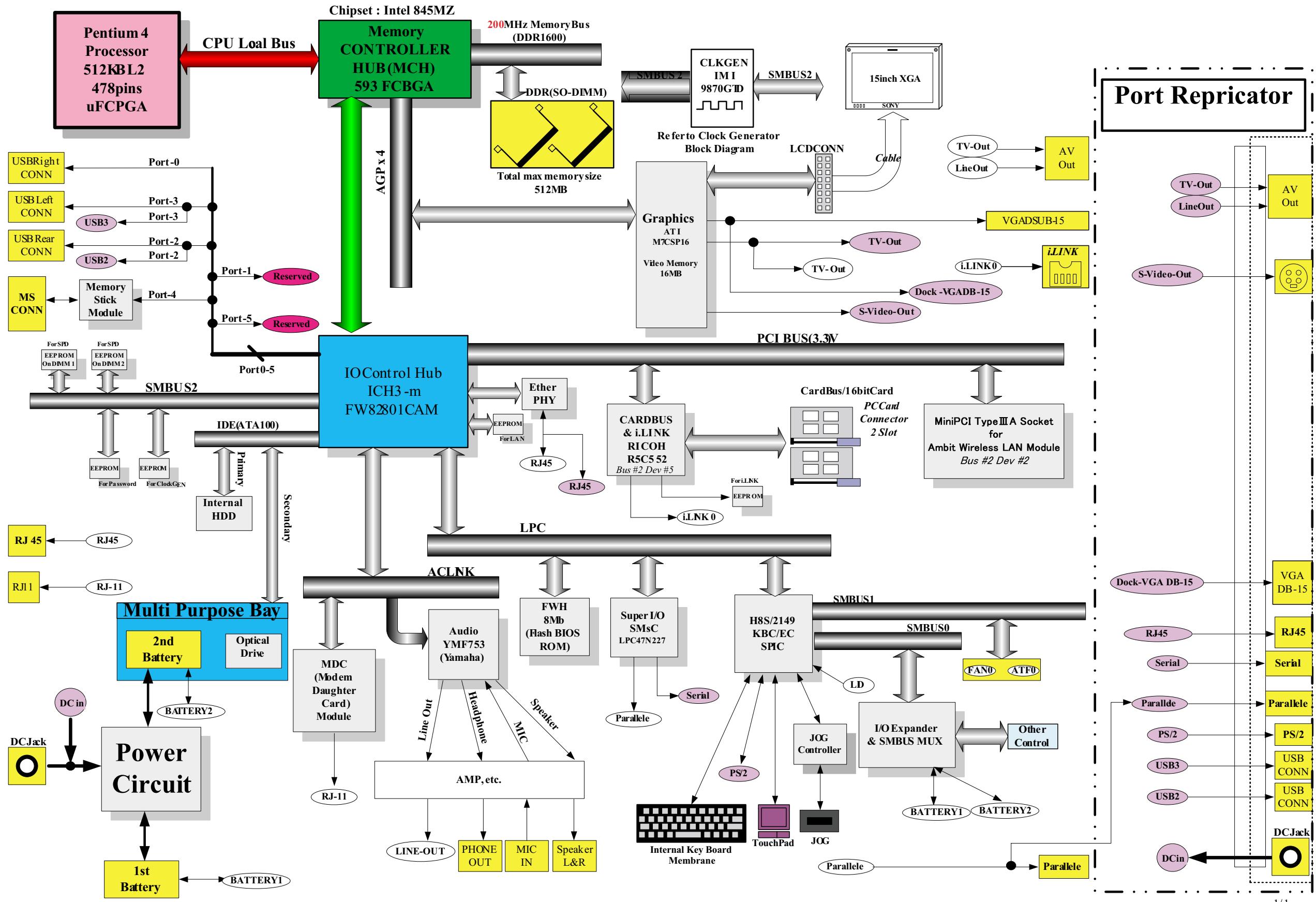
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History of the changes is shown as the
“Revision History” at the end of this data.

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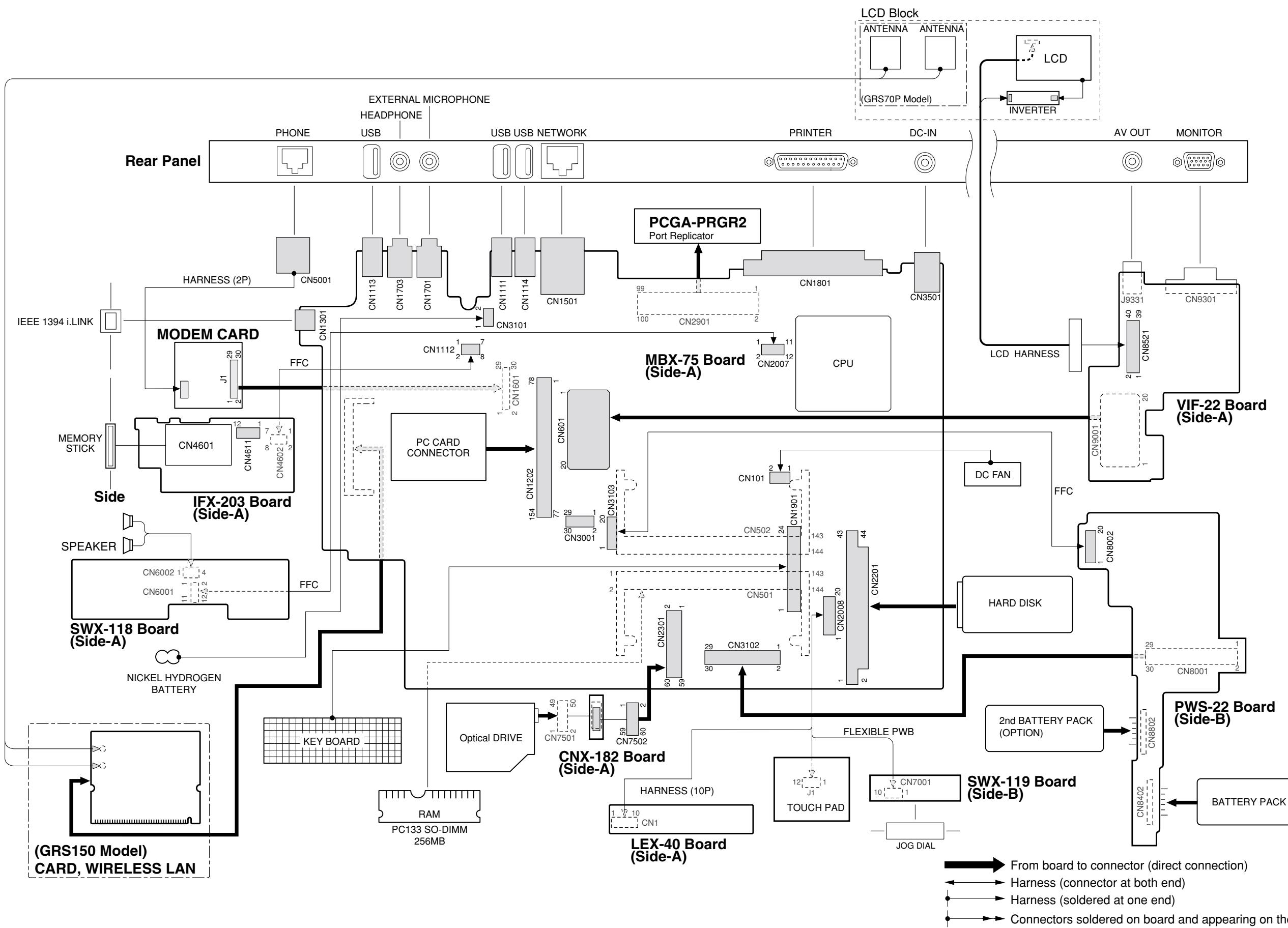
CHAPTER 1.

BLOCK DIAGRAM



CHAPTER 2.

FRAME HARNESS DIAGRAM



CHAPTER 3.

EXPLODED VIEWS AND PARTS LIST

NOTE:

- Items marked “ * ” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- When two or more parts are shown in parallel, use the part described first as the main part.
- The parts marked “ \$ ” are the High Value Modules.
- The parts marked “ # ” are the parts on which barcode label is attached.
- The indication [CH] is used for identification of part type.
- Regarding the boards of this model, the discrete parts on the boards cannot be replaced. However, Some connectors can be replaced.

The components identified by mark \triangle or dotted line with mark \triangle are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque \triangle sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

【使用上の注意】

- * 印の部品は常備在庫しておりません。
- 図面番号のない部品は供給しません。
- 併記部品の場合、上部記載部品をメイン部品として使用してください。
- 部品名称の前に\$印のついた部品は、High Value Moduleです。
- 商品名称の前に#印のついた部品は、バーコードラベル貼付部品です。
- [CH]の表記は部品管理上の識別です。
- 本モデルの基板については、基板上の各部品の修理は行うことができません。ただし、一部のコネクタについては、修理可能です。

\triangle 印の部品、または \triangle 印付きの点線で囲まれた部品は、安全性を維持するために重要な部品です。従って交換時は、必ず指定の部品を使用してください。

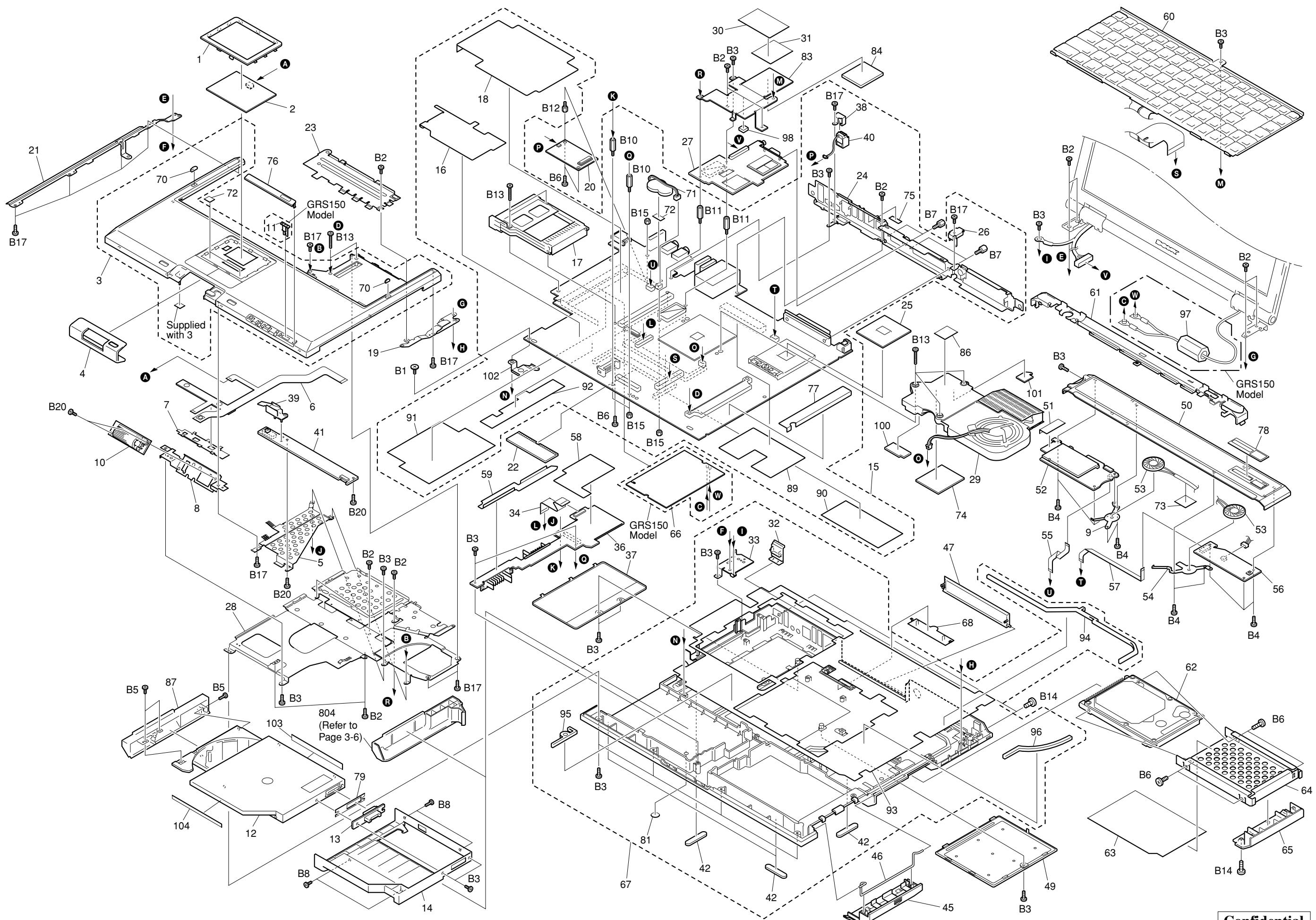
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3-1. Main Section

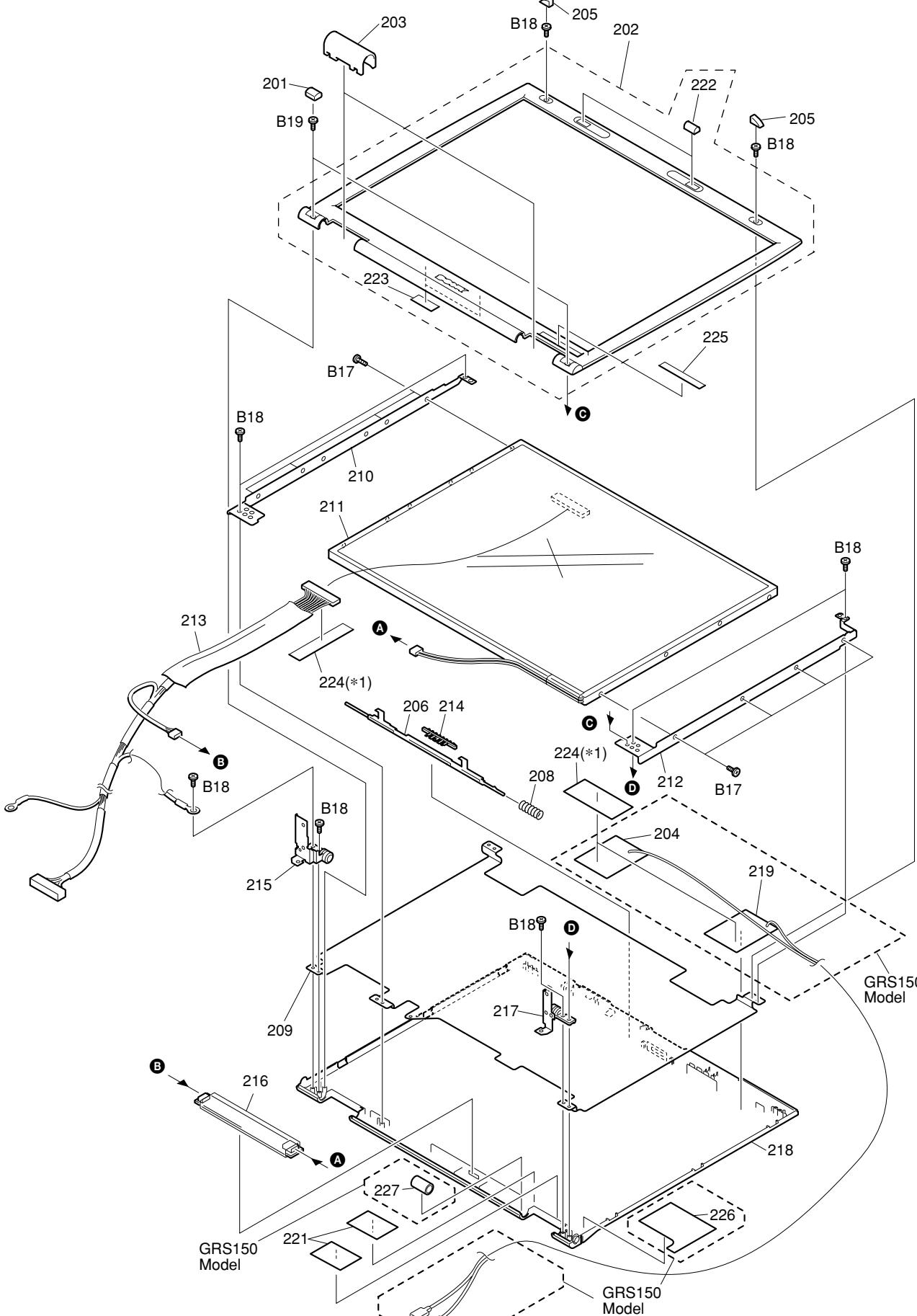
Ref.No.	Part No.	Description	Ref.No.	Part No.	Description
1	4-667-050-01	ESCUSHION (TP)	63	4-653-801-11	[CH]...SHEET HDD
2	1-796-166-21	PAD, TOUCH	64	4-653-799-11	[CH]...BRACKET HDD
3	X-4625-237-1	HOUSING (PALM REST) ASSY	65	X-4625-233-1	ASSY DOOR HDD
4	4-667-053-01	ESCUSHION (JOG)	66	1-761-564-21	# (GRS150)...WIRELESS LAN CARD
* 5	4-667-062-01	PLATE (GND)	67	X-4625-236-1	HOUSING BOTTOM ASSY
6	9-885-028-59	GT T/P FPC	68	4-654-379-12	[CH]...COVER (PORT)
7	4-653-795-01	[CH]...BUTTON HOLDER	70	4-668-288-01	CUSHION PALM
* 8	4-667-061-01	BRACKET (JOG)	71	1-756-038-11	BATTERY, NICKEL HYDROGEN
9	4-667-037-01	HOLDER (SPEAKER L)	72	4-642-711-11	[CH]...SHEET (BATTERY), ADHESIVE
10	A-8067-680-A \$	GT1 SWX-119 BD ASSY (S)	73		FILAMENT TAPE (W19X20) (*1)
11	4-666-522-01	(GRS150)...SLIDE SWITCH	74	4-669-395-01	SHEET (THERMAL)
12	1-796-455-11 #	COMBO DRIVE (UJDA730)	75	4-668-310-01	GASKET (LAN)
13	A-8067-678-A \$	GT1 CNX-182 BD ASSY (S)	76	4-666-520-01	(GRS150)...LENS COVER (A)
14	4-667-033-01	CASE (BAY)	76	4-666-521-01	(GRS170)...LENS COVER (B)
15	A-8067-683-A \$ #	GT1 MBX-75 BD ASSY	77	4-668-305-01	GT1 SHEET HOOD
16	4-668-304-01	SHEET DRIVE	78	4-668-313-01	ICON SHEET
17	1-815-594-41	CONNECTOR, PC CARD (EJECT RIGHT)	79	4-654-837-01	SHEET BAY BOARD
18	4-655-960-11	[CH]...SHEET PC CARD	81	4-654-380-31	[CH]...CAP BAY
* 19	4-667-068-01	BRACKET (PALMREST R)	83	X-4625-306-1	PLATE HEATSINK ASSY
20	1-761-606-11 #	CARD, MODEM	84	4-668-300-01	SHEET ATI
* 21	4-667-067-01	BRACKET (PALMREST L)	86		FILAMENT TAPE (W19X20) (*1)
22	6-600-116-01	IC M470-L3224DT0-CB0	87	X-4625-162-1	BEZEL CMB (PA)
23	X-4625-305-1	BRACKET KEYBOARD ASSY	89	4-668-306-01	SHEET PORT
24	X-4625-501-1	BLACKET IO ASSY	90	4-668-307-01	SHEET DIMM
25	6-703-104-01	(GRS150)...IC RH80532NC029256	91	4-668-308-01	SHEET MINI PCI
25	6-703-331-01	(GRS170)...IC RH80532GC033512-2	92	4-668-312-01	SHEET DIMM SIDE
26	4-654-119-11	[CH]...PLATE DC	93	4-668-297-01	INSULATOR MB SHIELDING
27	A-8067-682-A \$	GT1 VIF-22 BD ASSY (S)	94	4-668-295-01	FAN INLUT SPONGE 1
28	X-4625-238-1	ASSY SHIELDING PALMREST	95	4-668-296-01	FAN INLUT SPONGE 2
29	A-8023-934-A	HEATSINK ASSY	96	4-669-868-01	FAN INLUT SPONGE 3
30	4-670-461-01	SHEET BLIND (PLATE HEATSINK)	97	1-400-255-21	(GRS150)...FERRITE CORE
31	4-670-396-01	SHEET COPPER (PLATE HEATSINK)	98	4-670-462-01	THERMAL SHEET (PLATE HEAT SINK)
32	4-653-761-01	[CH]...CAP ETHERNET	100	4-670-463-01	THERMAL SHEET (HEATINK1)
33	4-667-060-01	BRACKET (I LINK)	101	4-670-464-01	THERMAL SHEET (HEATSINK1)
34	1-824-997-11	FFC (20P)	102	4-669-565-01	COMBO GND
36	A-8067-681-A \$	GT1 PWS-22 BD ASSY (S)	103	4-670-047-01	TAPE COPPER (PA1)
37	X-4625-234-1	ASSY DOOR (MDC)	104	4-670-048-01	TAPE COPPER (PA2)
38	4-667-066-01	BRACKET (PHONE)	B1	4-654-387-01	SCREW (MBX)
39	X-4625-239-1	ASSY LATCH DETECTOR	B2	4-641-726-41	SCREW (M2), SPECIAL HEAD
40	9-885-028-60	HARNESS, 2PIN	B3	4-669-867-01	SCREW (M2X4), SPECIAL HEAD
41	A-8067-679-A \$	GT1 LEX-40 BD ASSY (S)	B4	4-639-112-01	SCREW M2X4
42	4-668-294-01	FOOT FRONT	B5	4-645-177-01	SCREW (M1.7X3.5)
45	4-667-052-01	DOOR (BATTERY)	B6	4-635-301-01	SCREW M3X4
46	4-668-299-01	DOOR BATTERY SPRING	B7	4-635-966-01	SCREW (HEX)
47	X-4625-307-1	DOOR IO ASSY	B8	4-656-703-01	SCREW M2
49	X-4625-235-1	ASSY DOOR DIMM	B10	4-654-386-01	SPACER (PWS)
50	X-4625-232-1	ASSY HOOD KEYBOARD	B11	4-654-385-01	SPACER (VIF)
51	4-654-606-01	SHEET (MS)	B12	4-661-107-01	STAND OFF M2X5
52	A-8067-442-A \$	COMPLETE PWB IFX-203 (2240)	B13	4-644-899-01	SCREW (M2), 0 NUMBER P3 KIND
53	1-529-878-31	SPEAKER (2.8CM)	B14	4-654-811-01	SCREW M3
54	4-667-038-01	HOLDER (SPEAKER R)	B15	7-622-205-05	NUT (M2 TYPE2), HEXAGON
55	1-823-099-11	CABLE, FLEXIBLE FLAT	B17	4-641-726-81	SCREW (M2), SPECIAL HEAD
56	A-8067-684-A \$	GT1 SWX-118 BD ASSY (S)	B20	4-653-989-01	SCREW (M2), SPECIAL HEAD
57	1-823-100-11	CABLE, FLEXIBLE FLAT			
58	4-668-301-01	SHEET PWS1			
59	4-668-302-01	SHEET PWS2			
60	1-477-580-21	KEY BOARD UNIT (US)			
61	4-667-074-01	BASE (DISPLAY)			
62	A-8059-226-A \$ #	(GRS150)...			
62	A-8059-344-A \$ #	HDD (30GB, IC25N030ATCS04-0) (S)			
		(GRS170)...			
		ASSY HDD 30GB (T,20,F) (S)			

*1 Use the FILAMENT TAPE.

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3-2. LCD Section – Made by HI –

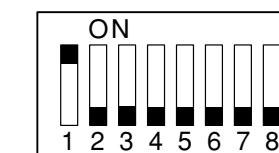


<u>Ref.No.</u>	<u>Part No.</u>	<u>Description</u>
201	4-666-090-01	COVER SCREW LOWER
202	X-4625-183-1	HOUSING (BEZEL 15) ASSY
203	4-667-073-01	COVER (HINGE)
204	1-754-261-11	(GRS150)...
205	4-666-091-01	FILM ANTENNA (FOR LEFT)
		COVER SCREW UPPER
206	4-666-340-01	LATCH HONTAI
208	4-639-623-11	SPRING (LATCH), COIL
209	4-666-253-01	SHIELD DISPLAY
* 210	4-666-430-02	BRACKET LCD 15 (L)
211	A-8067-507-A \$ #	ASSY LCD 15HI AP2 (S)
* 212	4-666-429-02	BRACKET LCD 15 (R)
213	1-961-757-13	LCD HARNESS
214	4-666-339-01	LATCH BUTTON
* 215	X-4625-151-1	HINGE LEFT
216	1-476-316-31	INVERTER UNIT
* 217	X-4625-152-1	HINGE RIGHT
218	X-4625-182-1	HOUSING (DISPLAY 15) ASSY
219	1-754-261-21	(GRS150)...
221	_____	FILM ANTENNA (FOR RIGHT)
222	4-666-088-01	FILAMENT TAPE (W19X20) (*1)
223	4-666-955-01	CUSHION BEZEL
224	_____	FILAMENT TAPE (W19X50) (*1)
225	4-668-044-11	(GRS170) ... LABEL ID (U)
225	4-668-044-31	(GRS150) ... LABEL ID (U)
226	4-670-044-01	(GRS150) ... SHEET WL CABLE
227	4-670-045-01	(GRS150) ... TUBE WL CABLE
B17	4-641-726-81	SCREW (M2), SPECIAL HEAD
B18	4-641-726-61	SCREW (M2), SPECIAL HEAD
B19	4-664-453-21	SCREW (M2X4), SPECIAL HEAD

*1 Use the FILAMENT TAPE

NOTE

Set the DIP switch on the MBX-75 board (Main board) to match with the LCD that is used in this computer.

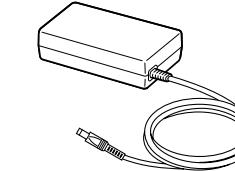


The upper position where ON indication is shown is the ON position . The lower position is the OFF position.

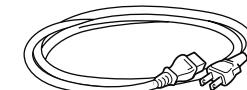
<u>Ref.No.</u>	<u>Part No.</u>	<u>Description</u>
ACCESSORIES		

△800 801	1-477-205-42 A-8110-809-A	\$ # ADAPTOR, AC BP2NX SNT (U) ASSY (S)
△802 803	1-757-562-21 4-653-768-02	CORD, POWER WEIGHT SAVER (Refer to page 3-3.)
	4-668-096-01	QUICK START

800
AC Adaptor (1)



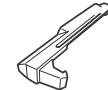
802
Power Cord (1)



801
Battery Pack (1)



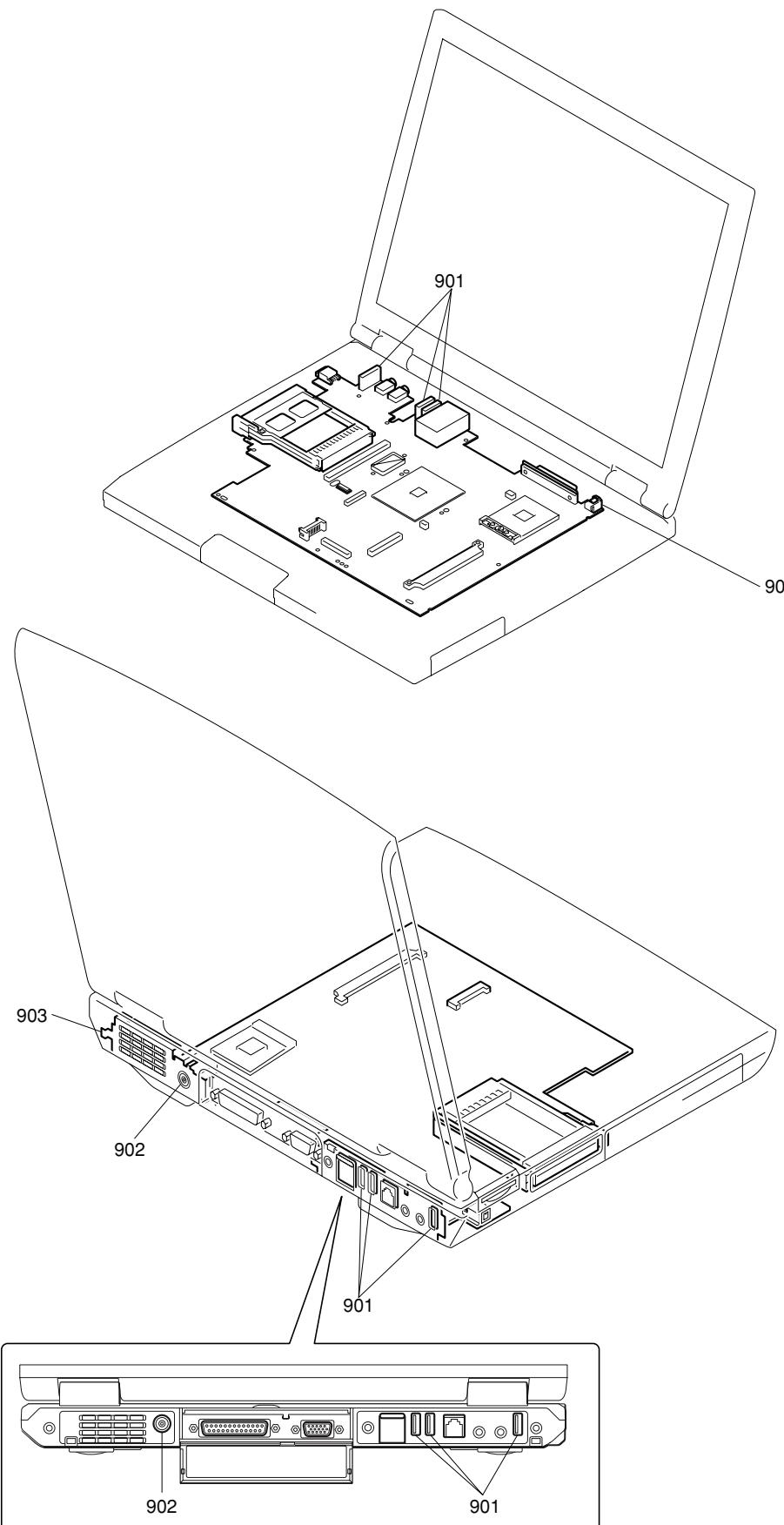
803
Weight Saver (1)



The components identified by mark  or dotted line with mark  are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque  sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant la même marquage.

3-3. Connector Section (CH Type only)



Ref. No.	Fig.	Part No.	Description
901		1-817-023-11 [CH] ...CONNECTOR, USB	USB connector
902		1-779-745-21 [CH] ...JACK, DC	DC IN connector
903		X-4625-501-1 [CH] ...BRACKET IO ASSY	I/O Bracket

* Among the parts that are used on the boards of this model, only the connectors that are shown in the list can be replaced.
(The parts other than the specified connectors cannot be replaced.)



PCG-GRS150/GRS170 (AM)

List of PCG-GRS Series (As of October, 2002)

Model Name	Service Manual Part No.
PCG-GRS150	
PCG-GRS170	9-876-018-01

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Revision History

Suffix	Ver.	Date	Contents	QM No.
-01	Ver. 1	2002.10.15	First Edition	

< Remarks >